Claims

What is claimed:

1. A system for delivering targeted advertisements to subscribers in a television service network environment, the system comprising:

an ad scheduler for providing an ad schedule based on channel change statistical information and avail time information; and

a multiple presentation stream (MPS) generator for generating a plurality of presentation stream groups each corresponding to a particular programming channel, each of the presentation stream groups composed of a plurality of multiple presentation streams that are carrying the same programming and the same avails, each of the presentation streams carrying advertisements directed to different advertiser-specific market segments according to the ad schedule.

2. The system of claim 1, further comprising:

at least one routing station for receiving the plurality of presentation stream groups from the MPS generator; and

a delivery network, coupled to the generator and the routing station, for delivering the plurality of presentation stream groups from the MPS generator to the routing station.

3. The system of claim 2, wherein the routing station includes:

a plurality of routing units each responsible for receiving

5 one of the plurality of presentation stream groups, wherein one

of the routing units selectively switches between the

presentation streams in said responsible presentation stream

group, only in response to a channel request from a subscriber

served by the routing station.

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4. The system of claim 3, wherein each of the routing

units includes:

an ad location detector for detecting advertisement

locations for said presentation stream group, only in response

15 to the channel request, and for generating a detection signal in

response to said detection;

a selector, coupled to the detector, for selecting one of

the presentation streams in said presentation stream group that

is most appropriate for the subscriber in response to the

20 detection signal, and generating a switching signal

corresponding to said selection; and

a switch, coupled to the selector, for switching to a

presentation stream in said presentation stream group in

response to the switching signal.

5   5.   The system of claim 4, wherein the ad location

detector detects the advertisement locations by detecting cue

tones.

          6.   The system of claim 4, wherein the ad location

10   detector detects the advertisement locations based on scheduled

avail information.

          7.   The system of claim 4, wherein the selector selects

said one presentation stream by comparing market segment

15   characteristics associated with advertisements corresponding to

the detected advertisement locations, with characteristics

associated with the subscriber served by the routing station and

by identifying a presentation stream based on said comparison.

20   8.   The system of claim 7, wherein the selector selects a

default presentation stream in said presentation stream group as

the most appropriate presentation stream if said comparison does
not identify a presentation stream.

9.   The system of claim 2, wherein the routing station is
located at a set top box.

10.   The system of claim 2, wherein the routing station is
located at a Universal Service Access Multiplexer (USAM) device
in a Switched Digital Video (SDV) system.

11.   The system of claim 2, wherein the delivery network is
one of the following: analog cable network, digital broadcast
satellite (DBS) network, digital cable network, switched digital
video (SDV) network, hybrid fiber coaxial (HFC) cable network,
or the Internet.

12.   The system of claim 1, wherein the channel change
statistical information identifies probabilistic percentages of
subscribers who would likely change their channels during
different time durations, and the avail time information
identifies time durations between adjacent avails in each
presentation stream.

13. The system of claim 12, wherein the probabilistic percentages represent average percentages of subscribers who would likely change their channels during the different time durations.

14. The system of claim 12, wherein the time duration between adjacent avails corresponds to a time duration from an end of an ad insertion window of one avail in a presentation stream to a start of an ad insertion window of a next avail in said presentation stream.

15. The system of claim 12, wherein the ad scheduler determines a threshold value based on the probabilistic percentages, compares the threshold value against each time duration between the avails, determines a degree of market segment relatedness between advertisements, and produces the ad schedule based on said comparison and determination results.

16. The system of claim 1, further comprising:

a storage unit, coupled to the MPS generator, for storing a

library of advertisements to be inserted into the presentation

streams.

5   17.   The system of claim 1, further comprising:

a data collector for collecting channel change data from a

group of subscribers; and

a statistics module, coupled to the data collector, for

performing calculations on the channel change data and thereby

10   generating the channel change statistical information.

18.   The system of claim 17, wherein at least one of

the data collector and the statistics module is located at a

set top box.

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19.   The system of claim 17, wherein the data collector is

located at a head end of a television programming delivery

system.

20   20.   The system of claim 19, wherein the statistics module

is located at the head end.

21. A method for delivering targeted advertisements to subscribers in a television service network environment, the method comprising the steps of:

5   producing an ad schedule based on channel change statistical information and avail time information; and

generating a plurality of presentation stream groups each corresponding to a particular programming channel, each of the presentation stream groups composed of a plurality of replicated

10   presentation streams that are carrying the same programming and the same avails, each of the presentation streams carrying advertisements directed to different advertiser-specific market segments according to the ad schedule.

15   22. The method of claim 21, further comprising:

transmitting the plurality of presentation stream groups to at least one local routing station; and

delivering to a subscriber, by the routing station, one of the presentation streams in the presentation stream group

20   corresponding to a channel request from the subscriber.

23. The method of claim 22, wherein the transmitting step transmits the plurality of presentation stream groups through one of the following: analog cable network, digital broadcast satellite (DBS) network, digital cable network, switched digital video (SDV) network, hybrid fiber coaxial (HFC) cable network, or the Internet.

24. The method of claim 22, wherein the delivering step includes:

detecting advertisement locations in said presentation stream group corresponding to the requested channel, only in response to the channel request;

generating a detection signal responsive to said detection;

determining, responsive to the detection signal, which one of the presentation streams in said presentation stream group is most appropriate for the subscriber; and

delivering the most appropriate presentation stream to the subscriber based on said determination.

25. The method of claim 24, wherein the detecting step detects the advertisement locations by detecting cue tones.

26. The method of claim 24, wherein the detecting step detects the advertisement locations based on scheduled avail information.

27. The method of claim 24, wherein the determining step includes:

comparing market segment characteristics associated with advertisements corresponding to said detected advertisement locations, with characteristics associated with the subscriber; and

identifying a presentation stream in said presentation stream group as the most appropriate presentation stream based on said comparison result.

28. The method of claim 27, wherein the determining step determines a pre-designated default presentation stream in said presentation stream group to be the most appropriate presentation stream if the identifying step does not identify a presentation stream.

29. The method of claim 22, wherein, in the transmitting step, the routing station is located at a set top box.

30. The method of claim 22, wherein, in the transmitting step, the routing station is located at a Universal Service Access Multiplexer (USAM) device in a switched digital video (SDV) system.

31. The method of claim 21, further comprising:

collecting channel change data from a group of subscribers; and

performing statistical calculations on the channel change data to produce the channel change statistical information.

32. The method of claim 31, wherein at least one of the collecting and performing steps is executed at a set top box.

33. The method of claim 31, wherein at least one of the collecting and performing steps is executed at a head end of a television programming delivery system.

34. The method of claim 21, wherein the channel change statistical information identifies probabilistic percentages of

subscribers who would likely change their channels during different time periods, and the avail time information identifies time durations between adjacent avails in the presentation stream groups.

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35. The method of claim 34, wherein the time duration between adjacent avails corresponds to a time duration from an end of an ad insertion window of one avail in a presentation stream to a start of an ad insertion window of a next avail in 10 said presentation stream.

36. The method of claim 34, wherein the producing step includes:

determining a threshold value based on the probabilistic 15 percentages;

comparing the threshold value against each time duration between the avails;

determining a degree of market segment relatedness between advertisements; and

20 producing the ad schedule based on said comparison and determination results.

37. The method of claim 34, wherein the probabilistic percentages represent average percentages of subscribers who would likely change their channels during the different time periods.

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38. The method of claim 21, further comprising:

pre-storing a library of advertisements to be inserted into the avails of the presentation streams.